# Programme and Abstracts of Conference on „Ecological problems of tourist lakes”

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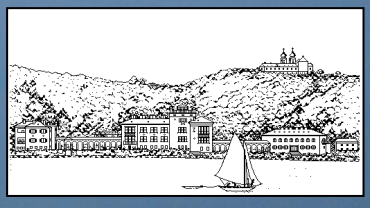
**Balaton Limnological Research Institute of the Hungarian Academy of Sciences**

New Hungary Development Plan



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# Unexpected cyanobacterial dominance in a deep oligo-mesotrophic lake, Lake Stechlin, Germany: *Aphanizomenon flos-aquae*, an ecosystem engineer

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Recent research detected an ongoing expansion of cyanobacteria in European lakes with moderate tropic states without parallel increase in trophic state indicators. A perennial *Aphanizomenon flos-aquae* bloom in Lake Stechlin, Germany in 2009-2010 represents such a case. Lake Stechlin is a deep (zmax: 69.5 m) glacial lake that used to be considered oligotrophic in the recent past of its history. Records on phytoplankton are available since 1994. The first filament of *Aphanizomenon flos-aquae* appeared in the lake in 2000 and then it developed minor peaks by every late summers. In 2009, however, an intensive growth started reaching a maximum (310 μg $L^{-1}$) in August. After a decline in August a winter population started to develop with a maximum around 920 μg $L^{-1}$ in December-February that persisted almost as monoculture under thick ice and snow. This project was implemented through the CENTRAL EUROPE Programme (European Lakes Under Environmental Stressors,2CE243P3) and the project Klimagetriebene Veränderungen der Biodiversität von Mikrobiota (TemBi) supported by the Leibniz Gemeinschaft (WGL).